Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KENNETH G. VICKERS

Appeal No. 1999-2574
Application No. 08/728,878

ON BRIEF

Before THOMAS, KRASS, and GROSS, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 4 and 5, the only claims pending in the application.

The invention is directed to field emission devices. In

particular, by minimizing lead overlap, via bus width reduction, the probability of interlevel oxide failures is reduced.

Representative claim 4 is reproduced as follows:

4. An apparatus comprising:

a circuit board having at least a first metal layer and a second metal layer, each said metal layer separated by an insulating layer;

said second metal layer overlapping said first metal layer in at least one region;

wherein said second metal layer has a monotonically decreasing width.

The examiner relies on the following reference:

Doshita 5,251,108 Oct. 5, 1993

Claims 4 and 5 stand rejected under 35 U.S.C. 112, first paragraph, based on an inadequate written description and a nonenabling disclosure.

Claims 4 and 5 stand further rejected under 35 U.S.C. 102(b) as anticipated by Doshita.

Reference is made to the brief and answer for the

respective positions of appellant and the examiner.

OPINION

We reverse.

Turning first to the rejection of claims 4 and 5 under 35 U.S.C. 112, first paragraph, as relying on an inadequate written description, we will not sustain this rejection.

It is the examiner's position that there is no support in the original disclosure for the second metal layer having "a monotonically decreasing width," as now claimed. Both appellant and the examiner agree that the original disclosure recited a "step-like" design and/or "a non-uniform width" when describing the second layer. However, it is the examiner's contention that step-like and/or non-uniform do not equate to "monotonically decreasing," as now claimed. We disagree.

As seen in Figure 10, the buses, or second layers, 82, 84 and 86 are, indeed, step-like or of non-uniform width. The question is whether these layers are of a width that is "monotonically decreasing." By the examiner's own definition,

at the top of page 6 of the answer, citing from Webster's II New Riverside University Dictionary, 1994, monotonic refers to "Designated sequences whose successive members either consistently increase or decrease but do not oscillate in relative value." That is, even the examiner appears to agree that a "monotonically decreasing width" is one that never increases. As can be seen in Figure 10, each bus, 82, 84, 86 has a width which decreases as one moves from right to left. See W3-W2-W1 in bus 82.

It is the examiner's position, as explained in the answer with regard to the Attachment A to the answer, that the width of metal layer 82 is narrow at a, widens at b, narrows back to c (which is even wider than a), widens to d and narrows back to e. If the bus, or layer 82 in Figure 10 had the shape attributed to it by the examiner, we would agree that the width of such layer is not monotonically decreasing. However, it is our view that the examiner's explanation is faulty.

As is clear from the disclosure, the bus, or layer, 82 consistently narrows from a width W3 to width W2 to width W1. Thus, the width is "monotonically decreasing." The examiner appears to think that certain parts of anode color stripes 50

form part of the buses, or layers, 82, 84, 86. That is, as the examiner explains it, at page 5 of the answer, referring to Attachment A to the answer,

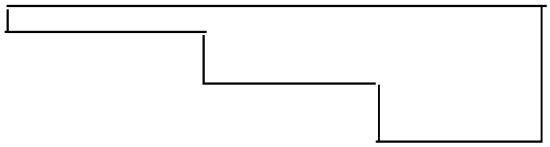
> As clearly indicated by the line segment I, the left-most conductor (50R) runs underneath of strip (82). The lack of such a line at the junction of the other two conductors (50R) with strip (82) in figure 10, shows that these other two conductors are in one piece with the strip (82) (the dashed line at these two junctions illustrates a coextensive conductor on a lower level). Therefore, the width of the metallic strip (82)fluctuates stepwise, is nonuniform, but is in no way monotonically increasing or decreasing.

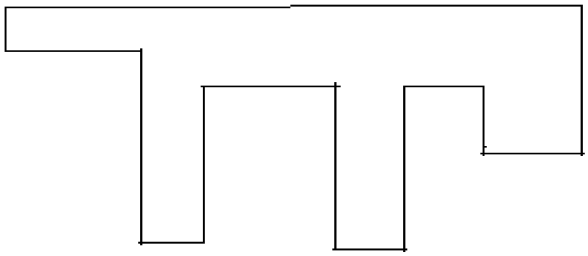
We understand how the examiner arrived at this conclusion but, in our view, the examiner has reached this conclusion through obvious misrepresentations by the drawings rather than by any disclosure of the instant specification. Clearly, there should have been a line, similar to the one represented by "I" in the examiner's Attachment A, across each of the strips 50R at the vias 60 in order to show that the strips 50R are underneath layer 82. This appears to be an error in the drawing itself, rather than an attempt to show the layer 82 as having elongated fingers at the two middle portions where it intersects with the middle strips 50R. It is suggested that the drawings be corrected to show what is described in the

specification prior to any patent issuing on this application.

Our decision herein is based on the assumption that layer 82 is meant to look like this:

In the unlikely event that the examiner's assessment is correct and layer 82 looks like this:





it would appear that the device would be inoperable since part of the layer 82 would appear to blend into, and become, stripes 50R.

Since, for the reasons supra, we hold that there is, indeed, an adequate written description, i.e., support, for the claimed “monotonically decreasing width,” we will not sustain the rejection of claims 4 and 5 based on the written description portion of 35 U.S.C. 112. We also will not sustain the rejection of these claims based on the enablement portion of 35 U.S.C. 112 since the artisan would clearly have been able to make and use the claimed invention by forming the layers 82, 84 and 86 as shown in instant Figure 10, for example, and in a manner shown supra.

Turning, finally, to the rejection of claims 4 and 5 under 35 U.S.C. 102(e), we also will not sustain this rejection since, clearly, the metal layers 29, 29b, 29c of Doshita are not "monotonically decreasing" in width, as that term is explained, supra.

The examiner's decision rejecting claims 3 and 4 under 35 U.S.C. 112, first paragraph, and under 35 U.S.C. 102(e) is reversed.

REVERSED

JAMES D. THOMAS Administrative Patent Judge	)	
ERROL A. KRASS Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
ANITA PELLMAN GROSS Administrative Patent Judge	)	

EK/RWK

ROSE ALYSSA KEAGY
TEXAS INSTRUMENTS INCORPORATED
P.O. BOX 655474 M/S 3999
DALLAS, TX 76265